What is claimed is:

1. A speech-dedicated stable amplifying system to increase speech intelligibility, comprising:

a first amplifying circuit to linearly amplify a first frequency range of an audio signal that substantially comprises first speech formant frequencies,

a second amplifying circuit to linearly amplify a second frequency range of the audio signal that substantially comprises second speech formant frequencies;

the amplification of the first frequency range and the amplification of the second frequency range to emulate at least one acoustic property of a passive device;

a mixer to combine the first frequency range and the second frequency range into an amplified audio signal; and

an acoustic output device to transmit the amplified audio signal.

2. The system of claim 1, in which the passive device comprises one of the group consisting of an ear cupping and an ear trumpet.

3. The system of claim 2, further comprising:

a receiver to receive an input signal and to source therefrom the audio signal of the first and second frequency ranges;

a generator to generate an injection tone;

the mixer to combine the injection tone with the signals of the first and the second frequency ranges amplified by the respective first and the second amplifiers; and

the acoustic output device to transmit the amplified audio signal of the first and the second frequency ranges together with the injection tone; and

a detector to recover a portion of the injection tone signal feedback and received by the receiver in the input signal;

the second amplifier comprising an adjustable gain of a magnitude controlled dependent on the level of the injection tone signal recovered by the detector.

4. The system according to claim 3, in which the generator is to generate an inaudible signal for the injection tone.

5. The system according to claim 3, in which

the generator generates the injection signal with a predetermined encoding modulation; and

the detector comprises a demodulation circuit to decode and recover the injection tone signal per the predetermined encoding modulation.

6. A public announcement system for enhanced speech intelligibility, comprising:

a first amplifier to linearly amplify a first frequency range of an audio signal, the first frequency range substantially of first speech formant;

a second amplifier to linearly amplify a second frequency range of the audio signal, the second frequency range substantially of second speech formant;

the amplification of the first frequency range and the amplification of the second frequency range weighted differently and to emulate at least one acoustic property of a passive device;

a mixer to combine the signal amplified by the first amplifier of the first frequency range and the signal amplified by the second amplifier of the second frequency range into an amplified audio signal; and

an acoustic output device to transmit the amplified audio signal.

7. The system of claim 6, in which the passive device comprises one of the group consisting of an ear cupping and an ear trumpet.

8. A method of enhancing speech intelligibility in a public address system, comprising:

receiving an audio signal;

differentially amplifying a first frequency range that substantially consists of first speech formant frequencies and a second frequency range that substantially consists of second formant frequencies of the audio signal;

mixing an injected inaudible signal tone with the audio signal;

sensing a level of the signal tone within the audio signal received; and

controlling a gain for amplification of the second frequency range based on the level of the signal tone sensed;

the controlling the gain for the amplification to be based on the level sensed, to substantially prevent regenerative oscillation of the audio signal and to amplify the second formant frequencies without creating howling.

9. The method of claim 8, further comprising modulating the signal tone using at least one of pulse modulation and frequency modulation.

10. The method of claim 8, wherein the sensing uses at least one of a filter having a phase lock to lock phase with the source signal, a narrow band filter, and an amplitude demodulator.

11. The method of claim 8, further comprising sensing a change in at least one environmental variable, wherein the controlling the gain for the amplification is further based on the sensed change.

12. The method of claim 11, wherein the sensed change is based on the signal tone.

13. The method of claim 8, wherein the differentially amplifying emulates at least one acoustic property of a passive device.

14. The method of claim 8, the differentially amplifying to emulate at least one acoustic property of a passive device of the group consisting of an ear cupping and an ear trumpet.